



CLAIM LISTING

Please amend the Claims as follows:

This listing of claims will replace all prior versions, and listing, of claims in the application:

Applicant has made a good faith effort to list each and every prior claim, including any amendments or changes thereto (or status thereof) in this "Listing" section, however, should there be any discrepancy between the previous version of a claim (or status thereof) and the listing not explicitly amended, canceled or otherwise changed by this amendment, only the previous version (and status thereof) should be referred to as the intent of the Applicant.

Listing of the Claims:

1-31. (Cancelled)

32. (New) A method for aggregating a plurality of physical lines within a network comprising a plurality of nodes, the method comprising:

determining line status information for at least two of said plurality of physical lines connecting a first node to a second node, where said line status information includes information regarding available data transmission bandwidth for transferring data between said first node and said second node;

associating at least a first and second of said plurality of physical lines with one another to create a first aggregated link;

determining aggregate status information for said first aggregated link; and

broadcasting aggregate status information for said first aggregated link including the maximum data transmission bandwidth available over a one of said plurality of physical lines within said first aggregated link.

33. (New) The method of Claim 32 further including the step of using a greedy algorithm to assign traffic across said first aggregated link.
34. (New) The method of Claim 32 wherein said first aggregate link consists solely of physical lines directly connecting the first node to the second node.
35. (New) The method of Claim 34 wherein said first aggregate link consists solely of physical lines directly connecting the first node to the second node, and wherein there are no intermediate nodes between the first node and the second node.
36. (New) The method of Claim 32, further comprising the step of associating at least a third of said plurality of physical lines connecting the first node to the second node with a second aggregated link containing line status information on said third physical line.
37. (New) The method of Claim 36, wherein said physical lines only include physical lines directly between the first node and the second node and there are no intermediate nodes between the first node and the second node.
38. (New) The method of Claim 36, wherein said second aggregate link consists of physical lines having a different class of service than said physical lines in said first aggregate link.
39. (New) The method of Claim 32, further comprising the steps:
determining the class of service for said plurality of physical lines connecting the first node to the second node by said status information;

prior to associating physical lines for said first aggregated link, selecting said first and second of said plurality of physical lines to be associated with each other in said first aggregate link from a group of said plurality of physical lines having a first class of service; and

creating a second aggregate link to include at least a third of said plurality of physical lines connecting the first node to the second node having a second class of service different from the first class of service.

40. (New) The method of Claim 32 wherein the first node is a sub network connection network element.
41. (New) The method of Claim 40 wherein the sub network connection network element is a sub network connection switch.
42. (New) The method of Claim 32 comprising the additional step of transmitting the aggregate status information of the first aggregated link to said second node.
43. (New) The method of Claim 32 wherein said aggregate status information of said first aggregated link includes a class of service based upon the line status information of each of said plurality of physical lines associated with said first aggregated link.
44. (New) The method of Claim 32 further comprising the step of automatically associating at least two of said plurality of said physical lines with the first aggregated link.

45. (New) The method of Claim 32 further comprising the step of reassociating one of said plurality of physical lines from the first aggregated link to a second aggregated link.
46. (New) The method of Claim 32 further comprising the step of designating which of said plurality of physical lines associated with said first aggregated link transmits data to said second node.
47. (New) The method of Claim 32 wherein at least one of said plurality of physical lines includes optical fiber.
48. (New) A method for directing information across a plurality of physical lines and switches in a network, the method comprising:
- storing line status information from said plurality of physical lines connecting a first switch to a second switch, the line status information including at least currently available bandwidth across each of said plurality of physical lines;
 - grouping at least two of said plurality of physical lines connecting the first switch and the second switch into a first aggregated link;
 - storing aggregate status information about the first aggregated link including the currently available bandwidth for a one of said plurality of physical lines within said first aggregated link having the highest currently available bandwidth selected from the line status information for said

plurality of physical lines, where said aggregate status information is accessible by remote switches;

receiving a request to send information from said first switch to said second switch, said request including the amount of required bandwidth for the information; and

directing the information across said first aggregated link only if said stored aggregate status information includes a currently available bandwidth greater than the required bandwidth for the information.

49. (New) The method of claim 48, further comprising:

selecting a physical line from said plurality of physical lines within the first aggregated link by determining a group of physical lines having a currently available bandwidth at least as great as the required bandwidth for the information and selecting an optimal physical line from said determined group having the least currently available bandwidth; and

directing the information across said optimal physical line.

50. (New) The method of claim 48, further comprising:

grouping at least a further two of said plurality of physical lines connecting the first switch and the second switch into a second aggregated link;

storing second aggregate status information about the second aggregated link including the currently available bandwidth for a one of said plurality of physical lines within said second aggregated link having the highest currently available bandwidth selected from the line status information for said plurality of physical lines; and

assigning the plurality of physical lines to the first aggregated link or the second aggregated link by placing physical lines having a first class of service in the first

aggregated link and placing physical lines having a second class of service in the second aggregated link.

51. (New) The method of claim 50, further comprising:
- receiving a class of service request within the request to send information between said first switch and said second switch; and
 - selecting an optimal aggregated link from said first aggregated link and said second aggregated link by selecting an aggregate link that matches the class of service request in said request to send information.
52. (New) The method of claim 51, further comprising:
- selecting a physical line from said plurality of physical lines within the optimal aggregated link by determining a group of physical lines having a currently available bandwidth at least as great as the required bandwidth for the information and selecting an optimal physical line from said determined group having the least currently available bandwidth; and
 - directing the information across said optimal physical line.
53. (New) A method for directing information across a plurality of physical lines and switches in a network, the method comprising:
- grouping at least two of said plurality of physical lines connecting the first switch and the second switch into a first aggregated link;
 - storing aggregate status information accessible by a third switch from said plurality of physical lines
 - connecting a first switch to a second switch, the aggregate status information including at least currently available bandwidth across each of said plurality of physical lines;

receiving a request to send information from said first switch to said second switch, said request including the amount of required bandwidth for the information; and

directing the information across said first aggregated link only if said stored aggregate status information includes a currently available bandwidth greater than the required bandwidth for the information.

54. (New) The method of claim 53, further comprising:

selecting a physical line from said plurality of physical lines within the first aggregated link by determining a group of physical lines having a currently available bandwidth at least as great as the required bandwidth for the information and selecting an optimal physical line from said determined group having the least currently available bandwidth; and

directing the information across said optimal physical line.

55. (New) The method of claim 53, further comprising:

grouping at least a further two of said plurality of physical lines connecting the first switch and the second switch into a second aggregated link;

storing second aggregate status information about the second aggregated link including the currently available bandwidth for a one of said plurality of physical lines within said second aggregated link having the highest currently available bandwidth selected from the line status information for said plurality of physical lines;

assigning the plurality of physical lines to the first aggregated link or the second aggregated link by placing physical lines having a first class of service in the first aggregated link and placing physical lines having a second class of service in the second aggregated link.

56. (New) The method of claim 53, further comprising:
 receiving a class of service request within the request to send information between said first switch and said second switch; and
 selecting an optimal aggregated link from said first aggregated link and said second aggregated link by selecting an aggregate link that matches the class of service request in said request to send information.
57. (New) The method of Claim 53 wherein said first aggregate link consists solely of physical lines directly connecting the first node to the second node.
58. (New) The method of Claim 53 wherein said first aggregate link consists solely of physical lines directly connecting the first node to the second node, and wherein there are no intermediate nodes between the first node and the second node.
59. (New) A method for directing information across a plurality of physical lines and switches in a network, the method comprising:
 grouping at least two of said plurality of physical lines connecting the first switch and the second switch into a first aggregated link;
 storing aggregate status information from said plurality of physical lines connecting a first switch to a second switch, the line status information including at least currently available bandwidth across each of said plurality of physical lines and the class of service for each of said plurality of physical lines;
 receiving a request to send information from said first switch to said second switch, said request including the

amount of required bandwidth for the information and the minimum class of service required; and

directing the information across said first aggregated link only if said stored aggregate status information includes a currently available bandwidth greater than the required bandwidth for the information;

selecting a physical line from said plurality of physical lines within the first aggregated link by determining a group of physical lines having a currently available bandwidth at least as great as the required bandwidth for the request and having at least the minimum class of service required by the request; and

selecting an optimal physical line from said determined group having the least currently available bandwidth; and

directing the information across said optimal physical line.